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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT PAPER NUMBER

2686

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,972

Applicant(s)

KLINE ET AL.

Examiner

Joy K Contee

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>09/05/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cern, U.S. Patent No. 6,452,482, in view of Adams III, U.S. Patent No. 6,057,873.

Regarding claim 1, Cern discloses an interface circuit for interfacing radio frequency communications signals with a medium voltage power line, the interface circuit comprising:

a medium voltage node adapted for connection to the medium voltage power line (col. 4, lines 44-52);

a reactive element (i.e., transformer) adapted for connection to a common potential (i.e., ground) (col. 4, lines 46-52).

Cern fails to explicitly disclose a metal oxide varistor connected between the medium voltage node and the reactive element, wherein the radio frequency communications signals are interfaced to the medium voltage node via the metal oxide varistor.

In a similar field of endeavor, Adams discloses electrical isolation of CATV devices wherein a metal oxide varistor is connected between the medium voltage node (CATV coaxial cable) and the reactive element (transformer 520), wherein the radio frequency communication signals are interfaced to the medium voltage node via the metal oxide varistor (see col. 7, lines 5-24 and see Fig. 6).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Cern to include a surge protector coupled to the medium voltage line for the purpose of ensuring that coaxial cable is shorted out a predetermined shut threshold voltage for protection against electrical hazards (see Cern, col. 7, lines 5-11 and 25-29).

Regarding claim 2, Cern discloses the interface circuit for interfacing, radio frequency communications signals with a medium voltage power line of claim 1, wherein the reactive element comprises: a transformer (col. 19, lines 25-28).

Regarding claim 3, Cern discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 1, wherein the reactive element comprises: a transformer, and a conductive line (i.e., reads on neutral conductors) coupled through a ferrite bead; wherein the transformer and the conductive line are connected in parallel with one another (i.e., neutral conductors, wires are connected to a grounding post at an MV-LV distribution transformer) (col. 5, lines 16-24 and col. 11, lines 30-44).

Regarding claim 4, Cern discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 1,

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wherein the radio frequency communications signals include transmitted signals, the interface circuit further comprising: a first opto coupler (i.e., reads on inductive coupler) adapted to couple in to the interface circuit the transmitted radio frequency communications signals to be interfaced via the medium voltage node (col. 13, lines 16-21).

Regarding claim 7, Cern further discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 1, wherein the radio frequency communications signals include received signals, the interface circuit further comprising: an opto coupler (i.e., reads on capacitive coupler) adapted to couple out of the interface circuit the received radio frequency communications signals interfaced via the medium voltage node (col. 13, lines 21-35).

Regarding claim 8, Cern discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 1, wherein the common potential comprises ground (col. 5, lines 21-23).

4. Claims 9 -10 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cern and Adams, in view of Geissler, U.S. Patent No. 4,004,257.

Regarding claim 9, the combination of Cern and Adams discloses an interface circuit for interfacing radio frequency communications signals with a medium voltage power line, the interface circuit comprising:

a medium voltage node adapted for connection to the medium voltage power line (col. 4, lines 45-52);

a conductive line (i.e., reads on neutral wires, conductors) and being adapted for connection to a common potential (i.e., ground) (col. 5, lines 16-23).

Cern fails to explicitly disclose a metal oxide varistor connected between the medium voltage node and the reactive element, wherein the radio frequency communications signals are interfaced to the medium voltage node via the metal oxide varistor.

In a similar field of endeavor, Adams discloses electrical isolation of CATV devices wherein a metal oxide varistor is connected between the medium voltage node (CATV coaxial cable) and the reactive element (transformer 520), wherein the radio frequency communication signals are interfaced to the medium voltage node via the metal oxide varistor (see col. 7, lines 5-24 and see Fig. 6).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Cern to include a surge protector coupled to the medium voltage line for the purpose of ensuring that coaxial cable is shorted out a predetermined shut threshold voltage for protection against electrical hazards (see Cern, col. 7, lines 5-11 and 25-29).

The combination does not explicitly disclose the conductive having a selected length the selected length being one quarter of the wavelength of the radio frequency communications signals.

In a similar field of endeavor, Geissler further discloses in a coaxial line a conductive member having the length of one quarter of the wavelength of the radio frequency communications signals (col. 7, lines 37-53).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Cern to include a conductive line having the length $\frac{1}{4}$ lambda for the purpose of filtering out frequencies having the wavelength lambda.

Regarding claim 10, the combination as modified by Geissler discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 9, wherein the radio frequency communications signals include transmitted signals, the interface circuit further comprising: a first opto coupler (i.e., reads on inductive coupler) adapted to couple in to the interface circuit the transmitted radio frequency communications signals to be interfaced via the medium voltage node (see Cern, col. 13, lines 16-21).

Regarding claim 13, the combination as modified by Geissler discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 9, wherein the radio frequency communications signals include received signals, the interface circuit further comprising: an opto coupler (i.e., reads on capacitive coupler) adapted to couple out of the interface circuit the received radio frequency communications signals interfaced via the medium voltage node (see Cern, col. 13, lines 21-35).

Regarding claim 14, the combination as modified by Geissler discloses the interface circuit for interfacing radio frequency communications signals with a medium voltage power line of claim 9, wherein the common potential comprises ground (see Cern, col. 5, lines 21-23).

Allowable Subject Matter

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5. Claims 5- 6 and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K Contee whose telephone number is 571.272.7906. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571.272.7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOY K. CONTEE
PATENT EXAMINER

JC

6/10/05